

ARDUINO LESSON PLAN

Day 1: Introduction to Circuits. Introduction to Arduino. The minicomputer you will use!

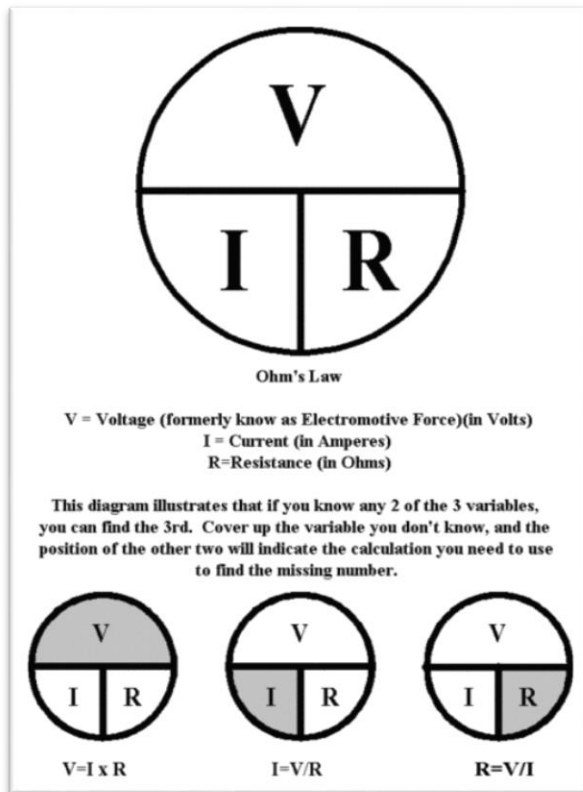
Day 2: Programming. How to make technology do what you want!

Day 3-9: Labs - Digital and Analog, circuits. Turning things on, off, and medium!

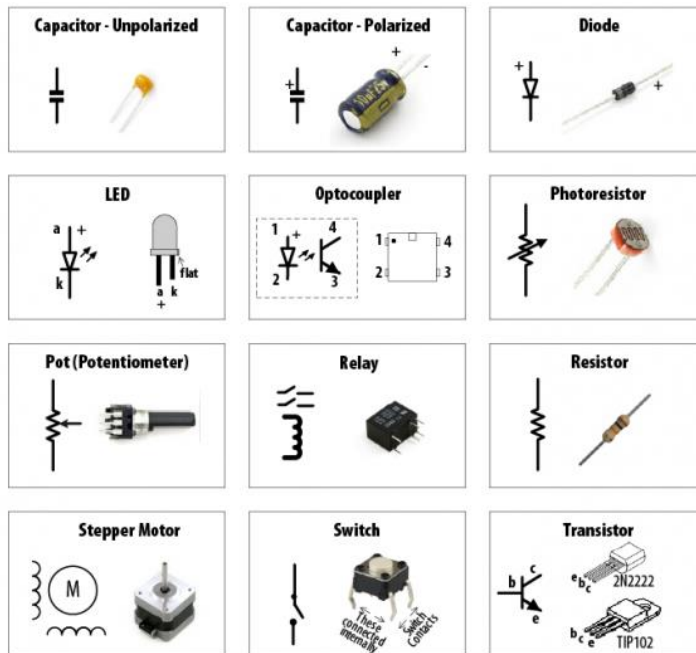
Day 10: Surprise Lab

Day 1

- Quick demo – “Vilros Starter Kit Circuit #1”
- Ohm’s Law. This one equation describes electricity!



- Introduction to electrical circuit components & sensors. The Key parts that use circuit components that use electricity!



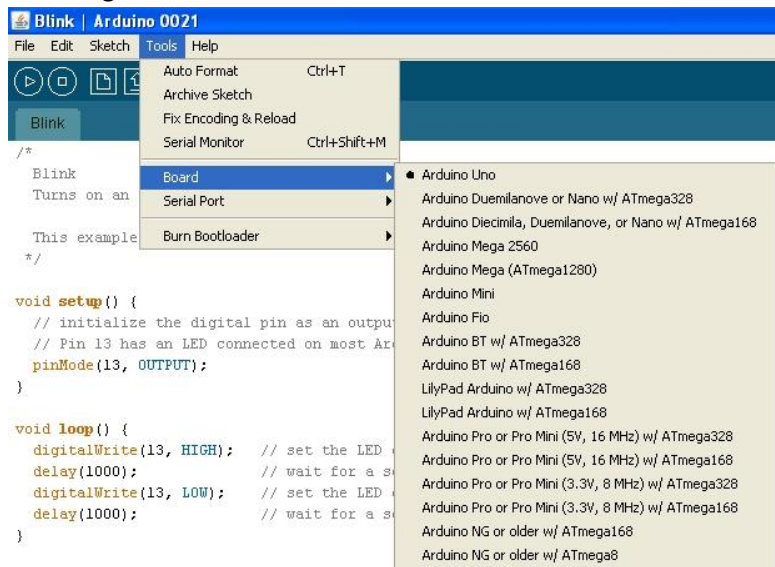
- Introduction to microcontrollers. Meet the “Arduino!”



- Unboxing of the Arduino kit

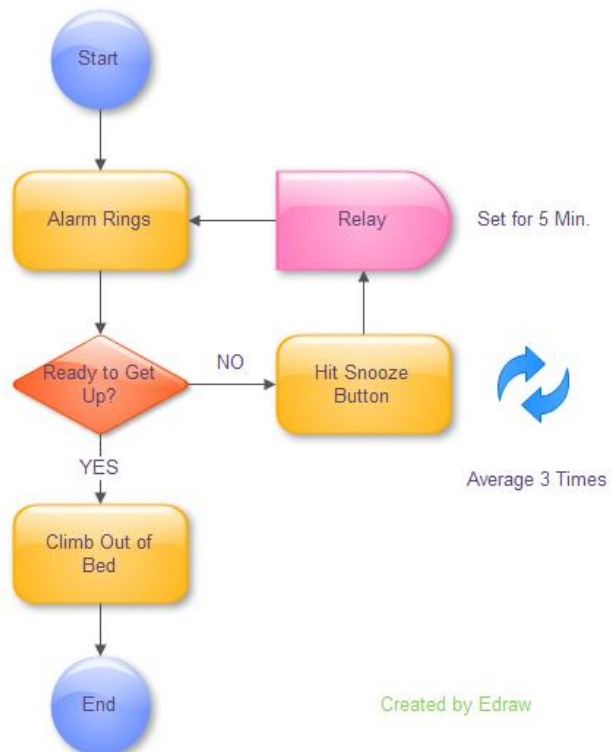


- Installing Arduino IDE software

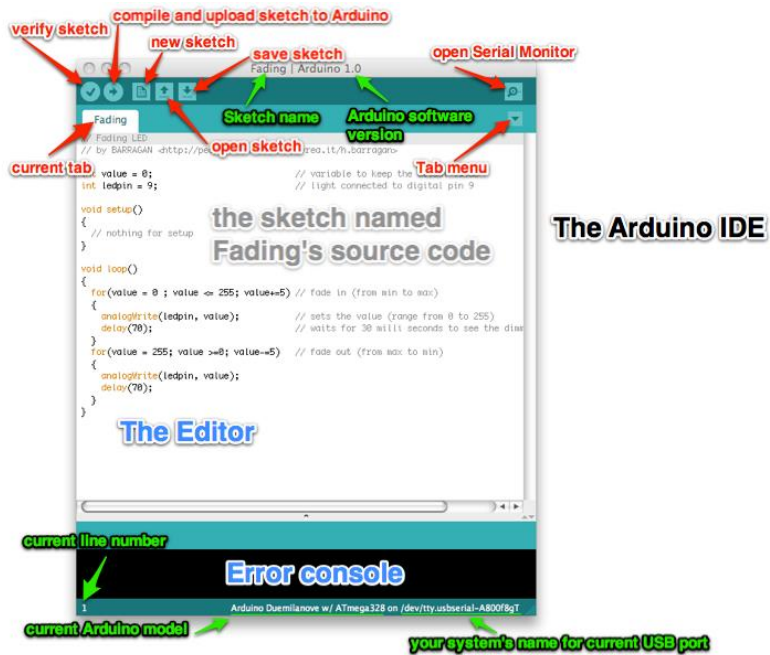


Day 2

- Flowcharting. Putting your thought process on paper!



- Programming Design. Now put your thoughts in order of computer grammar!
- Sample code. These are typed commands the computer can understand!
- Statements. Snippets of code, often to compare things!

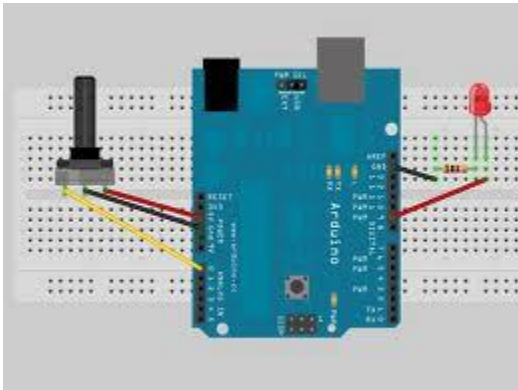


Day 3

- Ohm's Law part II (more electricity)
- PCB, Soldering, meters. How to connect the circuit components together!

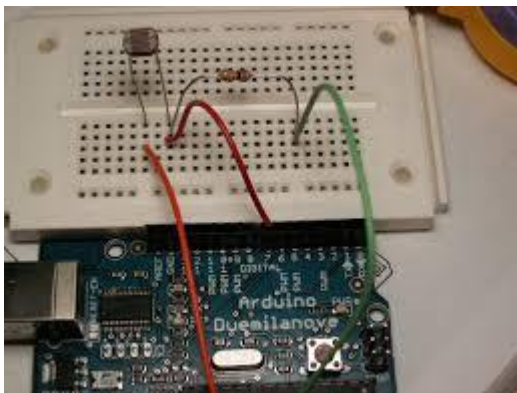


- Digital Circuits (ON/OFF), PWM (Faking Analog)– “Vilros Starter Kit Circuit #2 Lab”

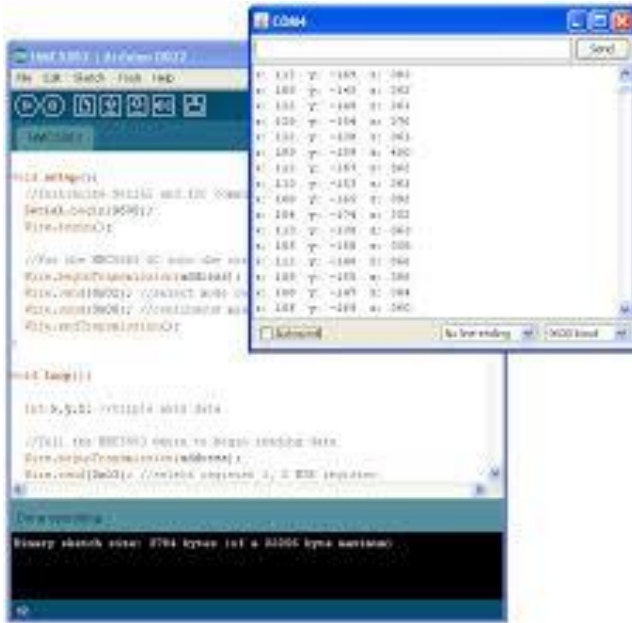


Day 4

- Analog Inputs – Photo Resistor “Vilros Starter Kit Circuit #6 Lab”

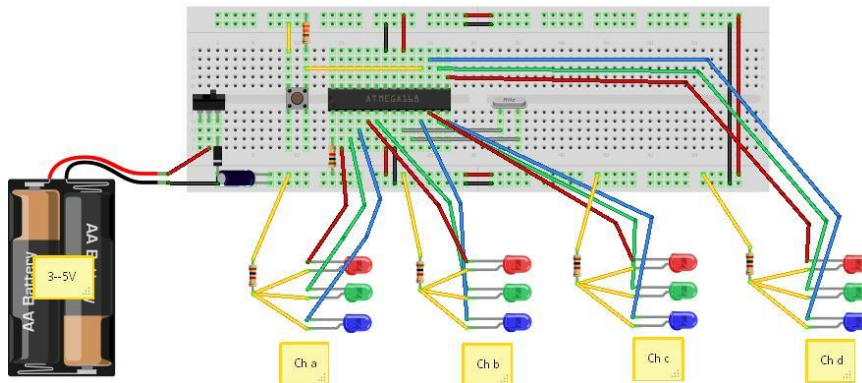


- Implement Serial Monitor. View your and 1’s and 0’s!



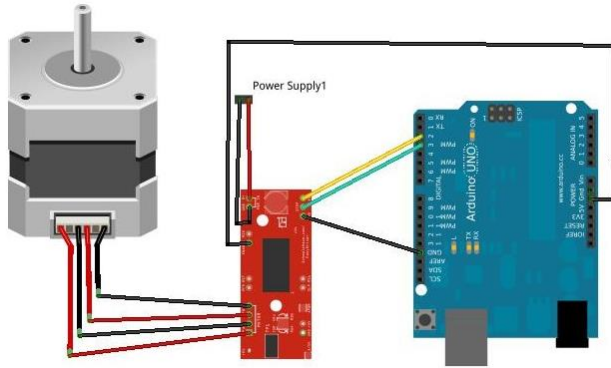
Day 5

- RGB LED - “Vilros Starter Kit Circuit #3 Lab”

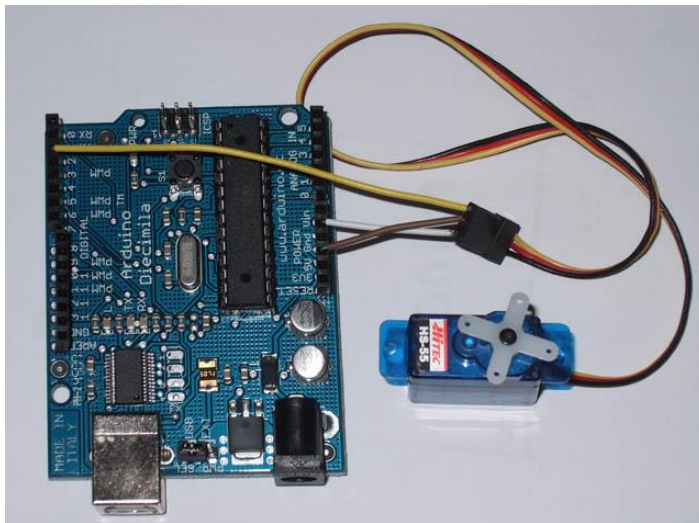


Day 6

- Stepper Motor discussion

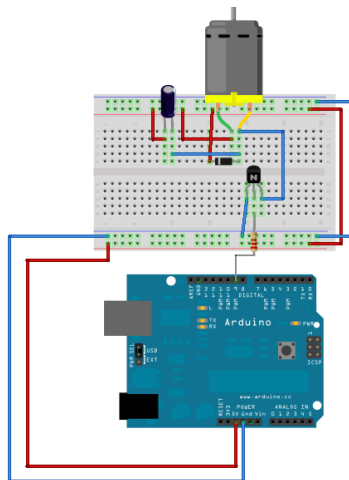


- Servo Motors “Vilros Starter Kit Circuit #8 Lab”



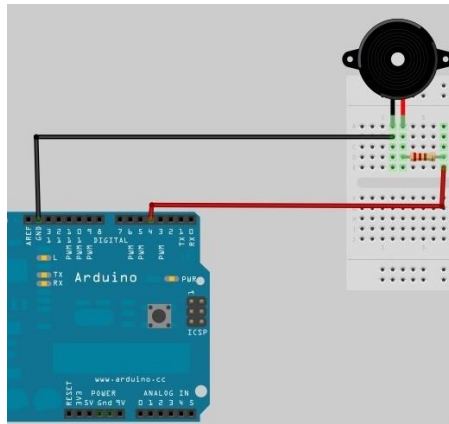
Day 7

- DC motors and transistors - “Vilros Starter Kit Circuit #10 Lab”



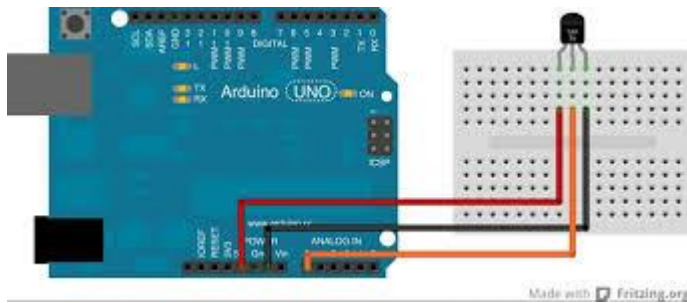
Day 8

- Buzzer - “Vilros Starter Kit Circuit #9 Lab”



Day 9

- Temperature Sensor w/Serial monitor - “Vilros Starter Kit Circuit #7 Lab”



Day 10

- Class Choice Final Lab!

